

# POSTGRADUATE CERTIFICATE IN INDUSTRIAL BIOTECHNOLOGY AND BIOMANUFACTURING

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## Programme Learning Outcomes

Programme Learning Outcomes for the Postgraduate Certificate in Industrial Biotechnology and Biomanufacturing (NFQ Level 9, Minor Award)

On successful completion of this programme, students should be able to:

- Describe the selection, design, construction and development of microbial strains for application in biotechnology
- Explain the importance of Integrating strain and bioprocess development in an holistic way by combining biological and engineering principles
- Critically evaluate the parameters required for bioprocess development including concepts like techno-economic feasibility and Life Cycle Assessment
- Appreciate the importance of the societal aspects of industrial biotechnology, including concepts like the regulatory environment, ethical research, and safe and sustainable by design
- Work collaboratively and effectively in a team to solve defined challenges